#4

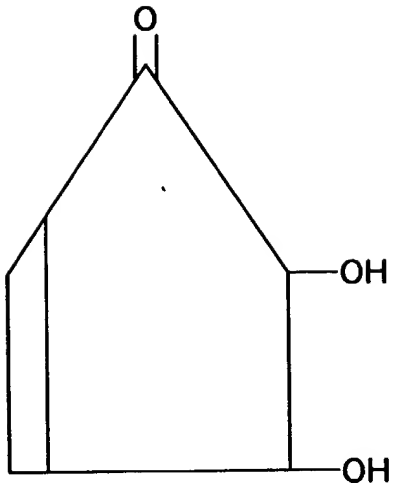


FIG. 1

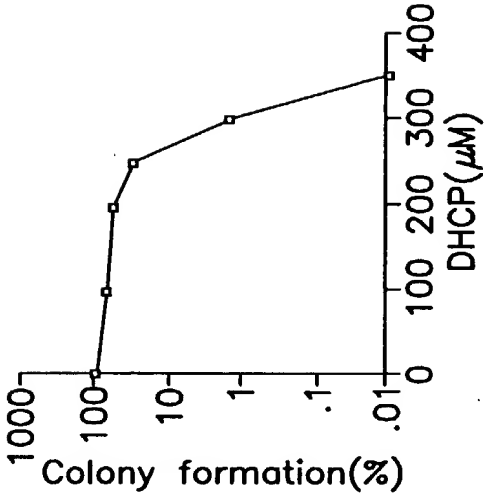

1000
100
10
1
.1
.01
Colony formation(%)
0
100
200
300
400
DHCP(μM)

FIG. 2B

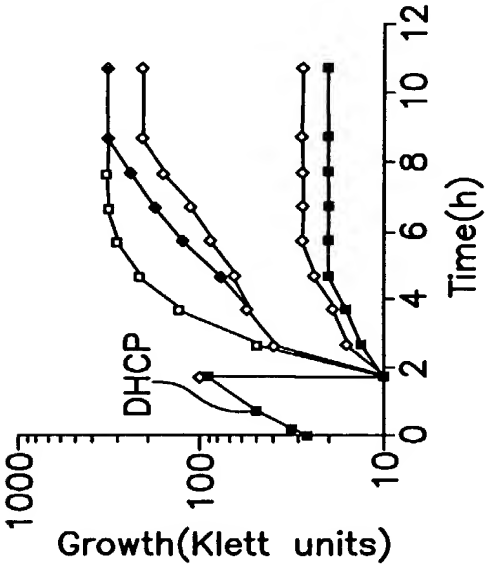

1000
100
10
Growth(Klett units)
DHCP
0
2
4
6
8
10
12
Time(h)

FIG. 2A

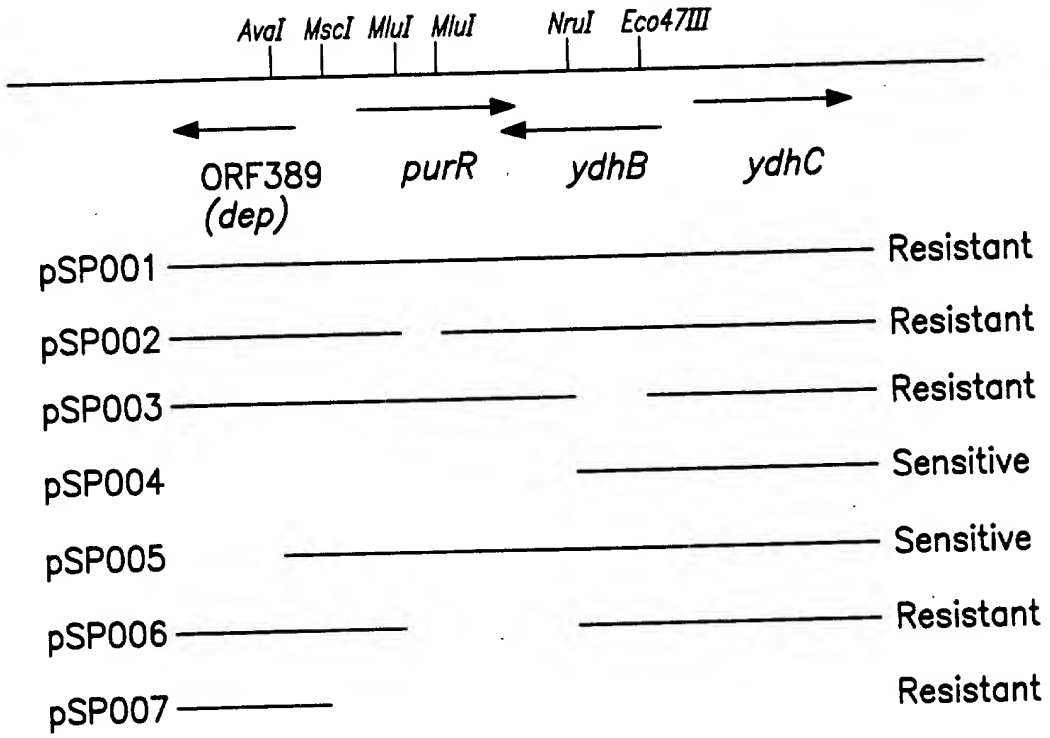

AvaI
MscI
MluI
MluI
NruI
Eco47III
ORF389
(dep)
purR
ydhB
ydhC
pSP001
Resistant
pSP002
Resistant
pSP003
Resistant
pSP004
Sensitive
pSP005
Sensitive
pSP006
Resistant
pSP007
Resistant

FIG. 3

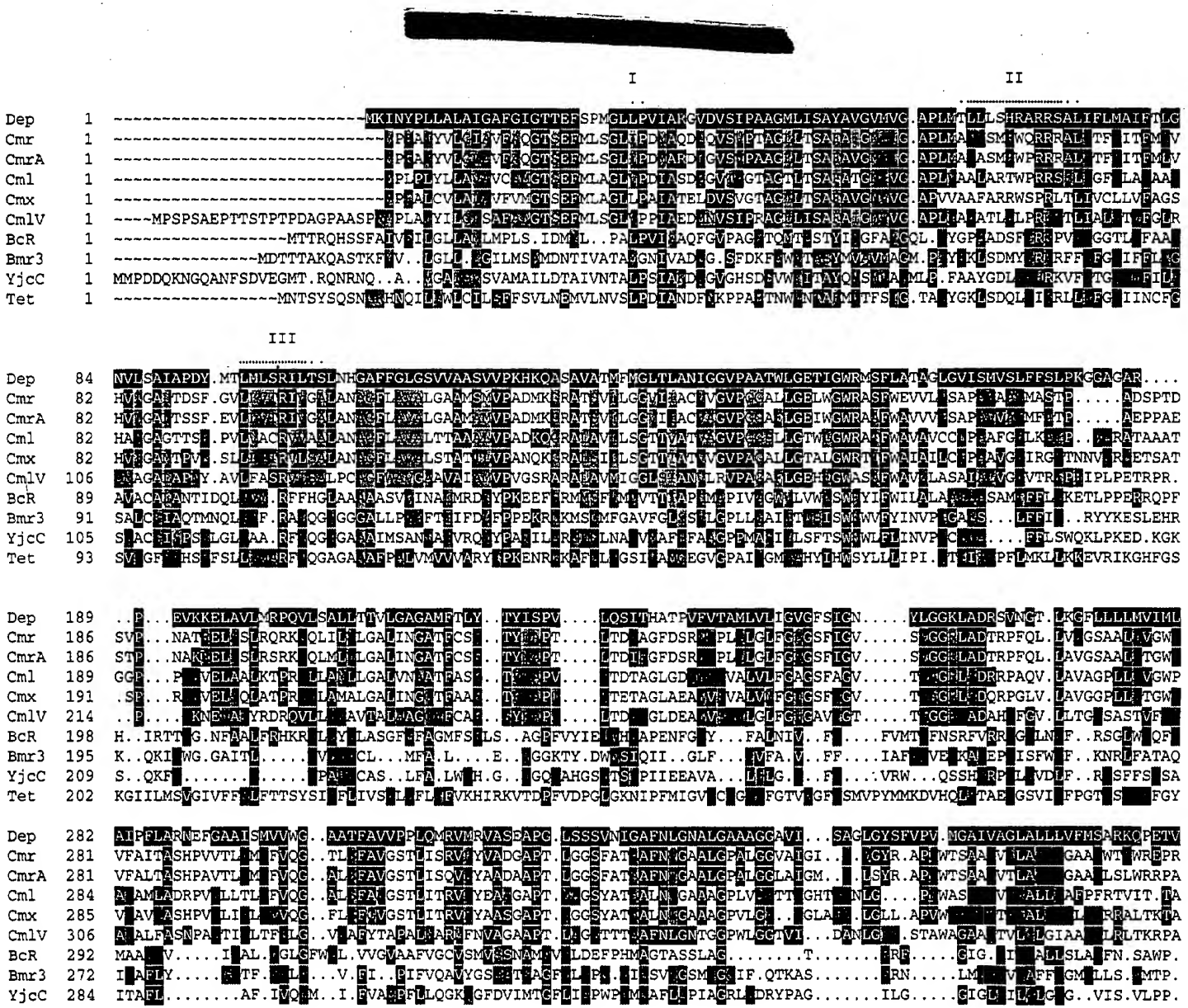


FIG. 4

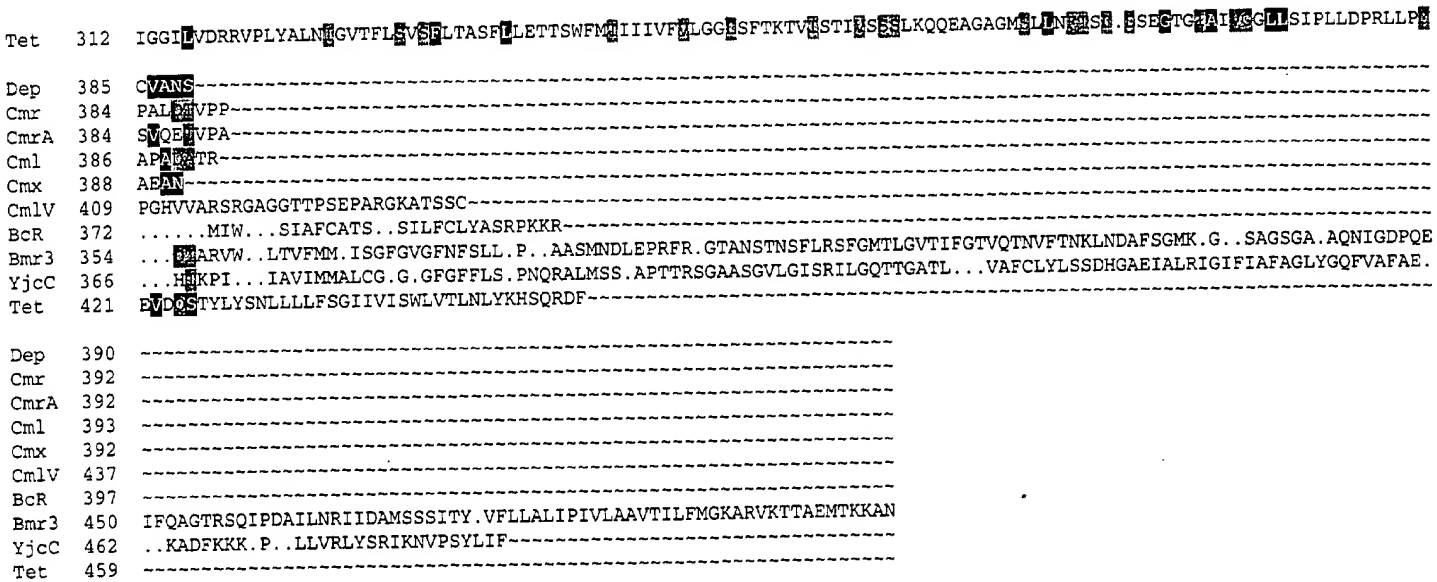

Tet 312 IGGILVDRRVPLYALNMGVTFLSVSFLTASFLLETTSWFMIIIIVFVLGGLSFTKTVLSTILSSSLKQQEAGAGMSLLNMMSL.SSEGTGAIVGGLLSIPLLDPRLLP
Dep 385 CVANS
Cmr 384 PALDVPP
CmrA 384 SVQELVPA
Cml 386 APALATR
Cmx 388 APAN
CmlV 409 PGHVVARSRGAGGTTPSEPARGKATSSC
BcR 372 .....MIW...SIAFCATS..SILFCLYASRPKKR
Bmr3 354 ...PPARVW..LTVFMM.ISGFGVGFNFSLL.P..AASMNDLEPRFR.GTANSTNSFLRSFGMTLGVTIFGTVQTNVFTNKLNDAFSGMK.G..SAGSGA.AQNIGDPQE
YjcC 366 ...HHKPI...IAVIMMALCG.G.GFGFFLS.PNQRALMSS.APTTRSGAASGVLGISRILGQTTGATL...VAFCLYLSSDHGAEIALRIGIFIAFAGLYGQFVAFAE.
Tet 421 PVDQSTYLYSNLLLLFSGIIVISWLVTLNLYKHSQRDF
Dep 390
Cmr 392
CmrA 392
Cml 393
Cmx 392
CmlV 437
BcR 397
Bmr3 450 IFQAGTRSQIPDAILNRIIDAMSSSITY.VFLLALIPIVLAAVTILFMGKARVKTTAEMTKKAN
YjcC 462 ..KADFKKK.P..LLVRLYSRIKNVPSYLIF
Tet 459

FIG. 4 (cont.)

FIG. 5A

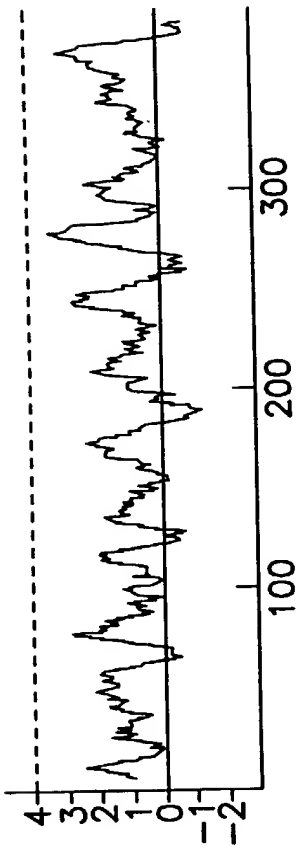


FIG. 5B

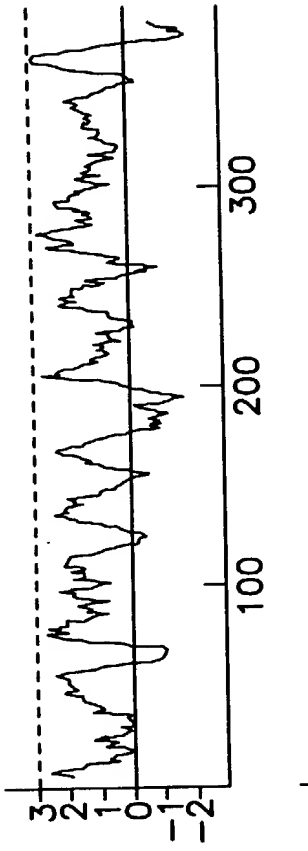
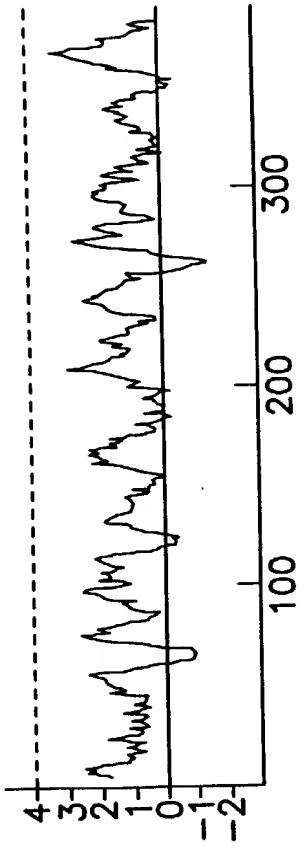


FIG. 5C



```
4381 gccagccact cttccagctg acgcacggta tagctgaccg cagaaggaac gcgatgcagc
4441 tcctgtgccg cagcgctaaa actaccatta cgcgctaccg catcaacaac ttcgagtgaa
4501 tattctgacc acatagtctg cctgcaaaat ttttgaaacc agtcatcaaa tattaccgtt
4561 tcacaacact aatttcactc cctacacttt gcggcggtgt ttaattgaga gatttagaga
4621 atatacatgc aacctgggaa aagattttta gtctggctgg cgggtttgag cgtactcggt
4681 tttctggcaa ccgatatgta tctgcctgct ttcgccgcca tacaggccga cctgcaaacg
4741 cctgcgtctg ctgtcagtgc cagccttagt ctgttccttg ccggttttgc cgcagcccag
4801 cttctgtggg ggccgctctc cgaccgttat ggtcgtaaac cggtattatt aatcggcctg
4861 acaatttttg cgttaggtag tctggggatg ctgtgggtag aaaacgccgc tacgctgctg
4921 gtattgcgtt ttgtacaggc tgtgggtgtc tgcgccgcgg cggttatctg gcaagcatta
4981 gtgacagatt attatccttc acagaaagtt aaccgtattt ttgcggccat catgccgctg
5041 gtgggtctat ctccggcact ggctcctctg ttaggaagct ggctgctggt ccatttttcc
5101 tggcaggcga ttttcgccac cctgtttgcc attaccgtgg tgctgattct gcctattttc
5161 tggctcaaac ccacgacgaa ggcccgtaac aatagtcagg atggtctgac ctttaccgac
5221 ctgctacgtt ctaaaaccta tcgcggcaac gtgctgatat acgcagcctg ttcagccagt
5281 ttttttgcat ggctgaccgg ttcaccgttc atccttagtg aaatgggcta cagcccggca
5341 gttattggtt taagttatgt cccgcaaact atcgcgtttc tgattggtgg ttatggctgt
5401 cgcgccgcgc tgcagaaatg gcaaggcaag cagttattac cgtggttgct ggtgctgttt
5461 gctgtcagcg tcattgcgac ctgggctgcg ggcttcatta gccatgtgtc gctggtcgaa
5521 atcctgatcc cattctgtgt gatggcgatt gccaatggcg cgatctaccc tattgttgtc
5581 gcccaggcgc tgcgtccctt cccacacgca actggtcgcg ccgcagcgtt gcagaacact
5641 cttcaactgg gtctgtgctt cctcgcaagt ctggtagttt cctggctgat cagtatcagc
5701 acgccattgc tcaccaccac cagcgtgatg ttatcaacag taatgctggt cgcgctgggt
5761 tacatgatgc aacgttgtga agaagttggc tgccagaatc atggcaatgc cgaagtcgct
5821 catagcgaat cacactgacc tatatcgata tacttatact taggctgcta acaaaatttt
5881 gttgtatgat tgaaattagc ggcctatact aatttcgagt tgttaaagct acgataaata
5941 ttatgttttt acggggacag gatcgttccc gactcactat ggatagtcat ttcggcaagg
6001 gttcctcctt tccctctgtt ctacgtcgga ttatagactc gcggtttttt ctgcgagatt
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6121 gagaaactat gagttcatcg tgtatagaag aagtcagtgt accggatgac aactggtacc
6181 gtatcgccaa cgaattactt agccgtgccg gtatagccat taacggttct gccccggcgg
6241 atattcgtgt gaaaaacccc gatttttta aacgcgttct gcaagaaggc tctttggggt
6301 taggcgaaag ttatatggat ggctggtggg aatgtgaccg actggatatg ttttttagca
6361 aagtcttacg cgcaggtctc gagaaccaac tcccccatca tttcaaagac acgctgcgta
6421 ttgccggcgc tcgtctcttc aatctgcaga gtaaaaaacg tgcctggata gtcggcaaag
6481 agcattacga tttgggtaat gacttgttca gccgcatgct tgatcccttc atgcaatatt
6541 cctgcgctta ctggaaagat gccgataatc tggaatctgc ccagcaggcg aagctcaaaa
6601 tgatttgtga aaaattgcag ttaaaaccag ggatgcgcgt actggatatt ggctgcggct
6661 ggggcggact ggcacactac atggcatcta attatgacgt aagcgtggtg ggcgtcacca
6721 tttctgccga acagcaaaaa atggctcagg aacgctgtga aggcctggat gtcaccattt
6781 tgctgcaaga ttatcgtgac ctgaacgacc agtttgatcg tattgtttct gtggggatgt
6841 tcgagcacgt cggaccgaaa aattacgata cctattttgc ggtggtggat cgtaatttga
6901 aaccggaagg catattcctg ctccatacta tcggttcgaa aaaaaccgat ctgaatgttg
6961 atccctggat taataaatat atttttccga acggttgcct gccctctgta cgccagattg
7021 ctcagtccag cgaaccccac tttgtgatgg aagactggca taacttcggt gctgattacg
7081 atactacgtt gatggcgtgg tatgaacgat tcctcgccgc atggccagaa attgcggata
7141 actatagtga acgctttaaa cgaatgttta cctattatct gaatgcctgt gcaggtgctt
7201 tccgcgcccg tgatattcag ctctggcagg tcgtgttctc acgcggtgtt gaaaacggcc
7261 ttcgagtggc tcgctaaagg ctattctatc gccccctctc cgggggcgat ttcagatcag
7321 gcttctgtgc ctggttgatt catggcattt tctcgtgccg ccagcacacg ttctaccgta
7381 tctaccactg cctgagtttg tggatcgatt tcaatgttga cgcgtgcgcc aagtttttc
7441 ttcccaagag tcgtgcgttc cagtgtttcc ggaattaaat ggacgcaaaa acgcgttggc
7501 gtgacttcgc cgacggtcag gctaataccg tcgatgccaa taaatccttt gtacagaata
7561 tatttcatca actgactatc ctggacttta aaccagatct ggcgattatt ttctgaggtt
7621 aatattttcg ccacttcagc agtggtcata atatgacctg acattaagtg tccgccaatt
7681 tcatcactga atttcgccgc acgctcaacg tttacccaat cccccacttt taaatcgcca
7741 agattggtaa tgcgtaacgt ttctttcatc aggtcaaaac tgacatggtt gccgttaatt
```

FIG. 6A

```
7801 tccgtcacgg tcaggcagca accgttatgc gccacggaag caccggtttc caggccgtcc
7861 agcatgtggt cgggtaactc caccacatgc gtacgaaaat ttggtttctc gtcaatcgac
7921 accagttttg cggtgccctg tacaatcccc gtaaacatac ttacaactcc tgaaatcagt
7981 taagacattc tgttcagcac aatagcaggt ggaaaacgcc cttaccagtg aaggggtaag
8041 aatggctatt ttttcactgg agaattaata aatcctcgct acaatagact gaatttcccc
8101 tgcttcttct ttttgctgcc cattcaggcg gctttttagt ctctcatata actacaaata
8161 aaaggtgttc acgtgcagaa gtatatcagt gaagcgcgtc tgttattagc attagcaatc
8221 ccggtgattc tcgcgcaaat cgcccaaact gcgatgggtt ttgtcagtac cgtgatggcg
```

FIG. 6B

```
          [atgc aacctgggaa aagattttta gtctggctgg cgggtttgag cgtactcggt
4681 tttctggcaa ccgatatgta tctgcctgct ttcgccgcca tacaggccga] cctgcaaacg
4741 cctgcgtctg ctgtcagtgc cagccttagt ctgttccttg ccggttttgc cgcagcccag
4801 cttctgtggg ggccgctctc cgaccgttat ggtcgtaaac cggtattatt aatcggcctg
4861 acaatttttg cgttaggtag tctggggatg ctgtgggtag aaaacgccgc tacgctgctg
4921 gtattgcgtt ttgtacaggc tgtgggtgtc tgcgccgcgg cggttatctg gcaagcatta
4981 gtgacagatt attatccttc acagaaagtt aaccgtattt ttgcggccat catgccgctg
5041 gtgggtctat ctccggcact ggctcctctg ttaggaagct ggctgctggt ccatttttcc
5101 tggcaggcga ttttcgccac cctgtttgcc attaccgtgg tgctgattct gcctattttc
5161 tggctcaaac ccacgacgaa ggcccgtaac aatagtcagg atggtctgac ctttaccgac
5221 ctgctacgtt ctaaaaccta tcgcggcaac gtgctgatat acgcagcctg ttcagccagt
5281 ttttttgcat ggctgaccgg ttcaccgttc atccttagtg aaatgggcta cagcccggca
5341 gttattggtt taagttatgt cccgcaaact atcgcgtttc tgattggtgg ttatggctgt
5401 cgcgccgcgc tgcagaaatg gcaaggcaag cagttattac cgtggttgct ggtgctgttt
5461 gctgtcagcg tcattgcgac ctgggctgcg ggcttcatta gccatgtgtc gctggtcgaa
5521 atcctgatcc cattctgtgt gatggcgatt gccaatggcg cgatctaccc tattgttgtc
5581 gcccaggcgc tgcgtccctt cccacacgca actggtcgcg ccgcagcgtt gcagaacact
5641 cttcaactgg gtctgtgctt cctcgcaagt ctggtagttt cctggctgat cagtatcagc
5701 acgccattgc tcaccaccac cagcgtgatg ttatcaacag taatgctggt cgcgctgggt
5761 tacatgatgc aacgttgtga agaagttggc tgccagaatc atggcaatgc cgaagtcgct
5821 catagcgaat cacactga
```

FIG. 7